

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: US/09/487,841
Source: FW/6
Date Processed by STIC: 12-22-04

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 06/05/04):
U.S. Patent and Trademark Office, 220 20th Street S., Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04


Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER: 09/487,841

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY FTO SOFTWARE

- 1 ☒ **Wrapped Nucleics
Wrapped Aminos** The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was relieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping." 
- 2 ☐ **Invalid Line Length** The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 ☐ **Misaligned Amino
Numbering** The numbering under each 5' amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 ☐ **Non-ASCII** The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 ☐ **Variable Length** Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing
- 6 ☐ **PatentIn 2.0
"bug"** A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s). Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 ☐ **Skipped Sequences
(OLD RULES)** Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
(2) INFORMATION FOR SEQ ID NO X (insert SEQ ID NO where "X" is shown)
(i) SEQUENCE CHARACTERISTICS (Do not insert any subheadings under this heading)
(xi) SEQUENCE DESCRIPTION SEQ ID NO X (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped

Please also adjust the "(i) NUMBER OF SEQUENCES" response to include the skipped sequences.
- 8 ☐ **Skipped Sequences
(NEW RULES)** Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
<210> sequence id number
<400> sequence id number
000
- 9 ☐ **Use of n's or Xaa's
(NEW RULES)** Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 10 ☐ **Invalid <213>
Response** Per 1.823 of Sequence Rules, the only valid <213> responses are Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence.
- 11 ☐ **Use of <220>** Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 09/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 ☐ **PatentIn 2.0
"bug"** Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 ☐ **Misuse of n/Xaa** "n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid



IFW16

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set : N:\CRF4\12222004\I487841.raw

4 <110> APPLICANT: Gravel, Roy A,
 5 Rozen, Rima
 6 Leclerc, Daniel
 7 Wilson, Aaron
 8 Rosenblatt, David
 10 <120> TITLE OF INVENTION: HUMAN METHIONINE SYNTHASE REDUCTASE:
 11 CLONING, AND METHODS FOR EVALUATING RISK OF NEURAL TUBE
 12 DEFECTS, CARDIOVASCULAR DISEASE, CANCER, AND DOWN'S SYNDROME
 15 <130> FILE REFERENCE: 50004/003004
 17 <140> CURRENT APPLICATION NUMBER: 09/487,841
 18 <141> CURRENT FILING DATE: 2000-01-19
 20 <150> PRIOR APPLICATION NUMBER: 09/371,347
 21 <151> PRIOR FILING DATE: 1999-08-10
 23 <150> PRIOR APPLICATION NUMBER: 09/232,028
 24 <151> PRIOR FILING DATE: 1999-01-15
 26 <150> PRIOR APPLICATION NUMBER: 60/071,622
 27 <151> PRIOR FILING DATE: 1998-01-16
 29 <160> NUMBER OF SEQ ID NOS: 61
 31 <170> SOFTWARE: FastSEQ for Windows Version 4.0

Does Not Comply
 Corrected Diskette Needed

(pg. 3, 5-19, 12, 14, 16)

ERRORED SEQUENCES

315 <210> SEQ ID NO: 21
 316 <211> LENGTH: 698
 317 <212> TYPE: PRT
 318 <213> ORGANISM: Homo sapiens
 320 <400> SEQUENCE: 21
 321 Met Arg Arg Phe Leu Leu Leu Tyr Ala Thr Gln Gln Gly Gln Ala Lys
 322 1 5 10 15
 323 Ala Ile Ala Glu Glu Met Cys Glu Gln Ala Val Val His Gly Phe Ser
 324 20 25 30
 325 Ala Asp Leu His Cys Ile Ser Glu Ser Asp Lys Tyr Asp Leu Lys Thr
 326 35 40 45
 327 Glu Thr Ala Pro Leu Val Val Val Val Ser Thr Thr Gly Thr Gly Asp
 328 50 55 60
 329 Pro Pro Asp Thr Ala Arg Lys Phe Val Lys Glu Ile Gln Asn Gln Thr
 330 65 70 75 80
 331 Leu Pro Val Asp Phe Phe Ala His Leu Arg Tyr Gly Leu Leu Gly Leu
 332 85 90 95
 333 Gly Asp Ser Glu Tyr Thr Tyr Phe Cys Asn Gly Gly Lys Ile Ile Asp
 334 100 105 110
 335 Lys Arg Leu Gln Glu Leu Gly Ala Arg His Phe Tyr Asp Thr Gly His

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

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336          115          120          125
337 Ala Asp Asp Cys Val Gly Leu Glu Leu Val Val Glu Pro Trp Ile Ala
338          130          135          140
339 Gly Leu Trp Pro Ala Leu Arg Lys His Phe Arg Ser Ser Arg Gly Gln
340 145          150          155          160
341 Glu Glu Ile Ser Gly Ala Leu Pro Val Ala Ser Pro Ala Ser Leu Arg
342          165          170          175
343 Thr Asp Leu Val Lys Ser Glu Leu Leu His Ile Glu Ser Gln Val Glu
344          180          185          190
345 Leu Leu Arg Phe Asp Asp Ser Gly Arg Lys Asp Ser Glu Val Leu Lys
346          195          200          205
347 Gln Asn Ala Val Asn Ser Asn Gln Ser Asn Val Val Ile Glu Asp Phe
348          210          215          220
349 Glu Ser Ser Leu Thr Arg Ser Val Pro Pro Leu Ser Gln Ala Ser Leu
350 225          230          235          240
351 Asn Ile Pro Gly Leu Pro Pro Glu Tyr Leu Gln Val His Leu Gln Glu
352          245          250          255
353 Ser Leu Gly Gln Glu Glu Ser Gln Val Ser Val Thr Ser Ala Asp Pro
354          260          265          270
355 Val Phe Gln Val Pro Ile Ser Lys Ala Val Gln Leu Thr Thr Asn Asp
356          275          280          285
357 Ala Ile Lys Thr Thr Leu Leu Val Glu Leu Asp Ile Ser Asn Thr Asp
358          290          295          300
359 Phe Ser Tyr Gln Pro Gly Asp Ala Phe Ser Val Ile Cys Pro Asn Ser
360 305          310          315          320
361 Asp Ser Glu Val Gln Ser Leu Leu Gln Arg Leu Gln Leu Glu Asp Lys
362          325          330          335
363 Arg Glu His Cys Val Leu Leu Lys Ile Lys Ala Asp Thr Lys Lys Lys
364          340          345          350
365 Gly Ala Thr Leu Pro Gln His Ile Pro Ala Gly Cys Ser Leu Gln Phe
366          355          360          365
367 Ile Phe Thr Trp Cys Leu Glu Ile Arg Ala Ile Pro Lys Lys Ala Phe
368          370          375          380
369 Leu Arg Ala Leu Val Asp Tyr Thr Ser Asp Ser Ala Glu Lys Arg Arg
370 385          390          395          400
371 Leu Gln Glu Leu Cys Ser Lys Gln Gly Ala Ala Asp Tyr Ser Arg Phe
372          405          410          415
373 Val Arg Asp Ala Cys Ala Cys Leu Leu Asp Leu Leu Leu Ala Phe Pro
374          420          425          430
375 Ser Cys Gln Pro Pro Leu Ser Leu Leu Leu Glu His Leu Pro Lys Leu
376          435          440          445
377 Gln Pro Arg Pro Tyr Ser Cys Ala Ser Ser Ser Leu Phe His Pro Gly
378          450          455          460
379 Lys Leu His Phe Val Phe Asn Ile Val Glu Phe Leu Ser Thr Ala Thr
380 465          470          475          480
381 Thr Glu Val Leu Arg Lys Gly Val Cys Thr Gly Trp Leu Ala Leu Leu
382          485          490          495
383 Val Ala Ser Val Leu Gln Pro Asn Ile His Ala Ser His Glu Asp Ser
384          500          505          510

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RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

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385 Gly Lys Ala Leu Ala Pro Lys Ile Ser Ile Ser Pro Arg Thr Thr Asn
386      515      520      525
387 Ser Phe His Leu Pro Asp Asp Pro Ser Ile Pro Ile Ile Met Val Gly
388      530      535      540
389 Pro Gly Thr Gly Ile Ala Pro Phe Ile Gly Phe Leu Gln His Arg Glu
390 545      550      555      560
391 Lys Leu Gln Glu Gln His Pro Asp Gly Asn Phe Gly Ala Met Trp Leu
392      565      570      575
393 Phe Phe Gly Cys Arg His Lys Asp Arg Asp Tyr Leu Phe Arg Lys Glu
394      580      585      590
395 Leu Arg His Phe Leu Lys His Gly Ile Leu Thr His Leu Lys Val Ser
396      595      600      605
397 Phe Ser Arg Asp Ala Pro Val Gly Glu Glu Glu Ala Pro Ala Lys Tyr
398      610      615      620
399 Val Gln Asp Asn Ile Gln Leu His Gly Gln Gln Val Ala Arg Ile Leu
400 625      630      635      640
401 Leu Gln Glu Asn Gly His Ile Tyr Val Cys Gly Asp Ala Lys Asn Met
402      645      650      655
403 Ala Lys Asp Val His Asp Ala Leu Val Gln Ile Ile Ser Lys Glu Val
404      660      665      670

```

E--> 405

Gly Val Glu Lys Leu Glu Ala Met Lys Thr Leu Ala Thr Leu Lys Glu

675

407 <210> SEQ ID NO: 22

408 <211> LENGTH: 682

409 <212> TYPE: PRT

410 <213> ORGANISM: Caenorhabditis elegans

412 <400> SEQUENCE: 22

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414 1 5 10 15

415 Thr Ile Ala Lys Ser Leu Lys Glu Lys Ala Glu Leu Ile Gly Leu Thr

416 20 25 30

417 Pro Arg Leu His Ala Leu Asp Glu Asn Glu Lys Lys Phe Asn Leu Asn

418 35 40 45

419 Glu Glu Lys Leu Cys Ala Ile Val Val Ser Ser Thr Gly Asp Gly Asp

420 50 55 60

421 Ala Pro Asp Asn Cys Ala Arg Phe Val Arg Arg Ile Asn Arg Asn Ser

422 65 70 75 80

423 Leu Glu Asn Glu Tyr Leu Lys Asn Leu Asp Tyr Val Leu Leu Gly Leu

424 85 90 95

425 Gly Asp Ser Asn Tyr Ser Ser Tyr Gln Thr Ile Pro Arg Lys Ile Asp

426 100 105 110

427 Lys Gln Leu Thr Ala Leu Gly Ala Asn Arg Leu Phe Asp Arg Ala Glu

428 115 120 125

429 Ala Asp Asp Gln Val Gly Leu Glu Leu Glu Val Glu Pro Trp Ile Glu

430 130 135 140

431 Lys Phe Phe Ala Thr Leu Ala Ser Arg Phe Asp Ile Ser Ala Asp Lys

432 145 150 155 160

433 Met Asn Ala Ile Thr Glu Ser Ser Asn Leu Lys Leu Asn Gln Val Lys

434 165 170 175

435 Thr Glu Glu Glu Lys Lys Ala Leu Leu Gln Lys Arg Ile Glu Asp Glu

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1 on
Error
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675 680
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DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

436					180					185					190		
437	Glu	Ser	Asp	Asp	Glu	Gly	Arg	Gly	Arg	Val	Ile	Gly	Ile	Asp	Met	Leu	
438				195					200					205			
439	Ile	Pro	Glu	His	Tyr	Asp	Tyr	Pro	Glu	Ile	Ser	Leu	Leu	Lys	Gly	Ser	
440		210					215					220					
441	Gln	Thr	Leu	Ser	Asn	Asp	Glu	Asn	Leu	Arg	Val	Pro	Ile	Ala	Pro	Gln	
442	225					230					235					240	
443	Pro	Phe	Ile	Val	Ser	Ser	Val	Ser	Asn	Arg	Lys	Leu	Pro	Glu	Asp	Thr	
444					245					250					255		
445	Lys	Leu	Glu	Trp	Gln	Asn	Leu	Cys	Lys	Met	Pro	Gly	Val	Val	Thr	Lys	
446				260					265					270			
447	Pro	Phe	Glu	Val	Leu	Val	Val	Ser	Ala	Glu	Phe	Val	Thr	Asp	Pro	Phe	
448			275					280					285				
449	Ser	Lys	Lys	Ile	Lys	Thr	Lys	Arg	Met	Ile	Thr	Val	Asp	Phe	Gly	Asp	
450		290					295					300					
451	His	Ala	Ala	Glu	Leu	Gln	Tyr	Glu	Pro	Gly	Asp	Ala	Ile	Tyr	Phe	Cys	
452	305					310					315					320	
453	Val	Pro	Asn	Pro	Ala	Leu	Glu	Val	Asn	Phe	Ile	Leu	Lys	Arg	Cys	Gly	
454					325					330					335		
455	Val	Leu	Asp	Ile	Ala	Asp	Gln	Gln	Cys	Glu	Leu	Ser	Ile	Asn	Pro	Lys	
456				340					345					350			
457	Thr	Glu	Lys	Ile	Asn	Ala	Gln	Ile	Pro	Gly	His	Val	His	Lys	Ile	Thr	
458			355					360					365				
459	Thr	Leu	Arg	His	Met	Phe	Thr	Thr	Cys	Leu	Asp	Ile	Arg	Arg	Ala	Pro	
460		370					375					380					
461	Gly	Arg	Pro	Leu	Ile	Arg	Val	Leu	Ala	Glu	Ser	Thr	Ser	Asp	Pro	Asn	
462	385					390					395					400	
463	Glu	Lys	Arg	Arg	Leu	Glu	Glu	Cys	Ser	Ala	Gln	Gly	Met	Lys	Asp		
464				405					410					415			
465	Phe	Thr	Asp	Phe	Val	Arg	Thr	Pro	Gly	Leu	Ser	Leu	Ala	Asp	Met	Leu	
466				420					425					430			
467	Phe	Ala	Phe	Pro	Asn	Val	Lys	Pro	Pro	Val	Asp	Arg	Leu	Ile	Glu	Leu	
468			435					440					445				
469	Leu	Pro	Arg	Leu	Ile	Pro	Arg	Pro	Tyr	Ser	Met	Ser	Ser	Tyr	Glu	Asn	
470		450					455					460					
471	Arg	Lys	Ala	Arg	Leu	Ile	Tyr	Ser	Glu	Met	Glu	Phe	Pro	Ala	Thr	Asp	
472	465					470					475					480	
473	Gly	Arg	Arg	His	Ser	Arg	Lys	Gly	Leu	Ala	Thr	Asp	Trp	Leu	Asn	Ser	
474				485						490					495</		

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DATE: 12/22/2004

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Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

```

485 Asp Ala Ile Tyr Met Ser Glu Leu Glu Met Phe Val Ser Glu Gly Ile
486          580          585          590
487 Leu Thr Asp Leu Ile Ile Cys Glu Ser Glu Gln Lys Gly Glu Arg Val
488          595          600          605
489 Gln Asp Gly Leu Arg Lys Tyr Leu Asp Lys Val Leu Pro Phe Leu Thr
490          610          615          620
491 Ala Ser Thr Glu Ser Lys Ile Phe Ile Cys Gly Asp Ala Lys Gly Met
492 625          630          635          640
493 Ser Lys Asp Val Trp Gln Cys Phe Ser Asp Ile Val Ala Ser Asp Gln
494          645          650          655

```

E--> 495

Gly Ile Pro Asp Leu Glu Ala Lys Lys Lys Leu Met Asp Leu Lys Lys

660

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497 <210> SEQ ID NO: 23
498 <211> LENGTH: 677
499 <212> TYPE: PRT
500 <213> ORGANISM: Homo sapiens
502 <400> SEQUENCE: 23

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E--> 503 Met Gly Asp Ser His Val Asp Thr Ser Ser Thr Val Ser Glu Ala Val
504 1          5          10          15
505 Ala Glu Glu Val Ser Leu Phe Ser Met Thr Asp Met Ile Leu Phe Ser
506          20          25          30
507 Leu Ile Val Gly Leu Leu Thr Tyr Trp Phe Leu Phe Arg Lys Lys Lys
508          35          40          45
509 Glu Glu Val Pro Glu Phe Thr Lys Ile Gln Thr Leu Thr Ser Ser Val
510          50          55          60
511 Arg Glu Ser Ser Phe Val Glu Lys Met Lys Lys Thr Gly Arg Asn Ile
512 65          70          75          80
513 Ile Val Phe Tyr Gly Ser Gln Thr Gly Thr Ala Glu Glu Phe Ala Asn
514          85          90          95
515 Arg Leu Ser Lys Asp Ala His Arg Tyr Gly Met Arg Gly Met Ser Ala
516          100          105          110
517 Asp Pro Glu Glu Tyr Asp Leu Ala Asp Leu Ser Ser Leu Pro Glu Ile
518          115          120          125
519 Asp Asn Ala Leu Val Val Phe Cys Met Ala Thr Tyr Gly Glu Gly Asp
520          130          135          140
521 Pro Thr Asp Asn Ala Gln Asp Phe Tyr Asp Trp Leu Gln Glu Thr Asp
522 145          150          155          160
523 Val Asp Leu Ser Gly Val Lys Phe Ala Val Phe Gly Leu Gly Asn Lys
524          165          170          175
525 Thr Tyr Glu His Phe Asn Ala Met Gly Lys Tyr Val Asp Lys Arg Leu
526          180          185          190
527 Glu Gln Leu Gly Ala Gln Arg Ile Phe Glu Leu Gly Leu Gly Asp Asp
528          195          200          205
529 Asp Gly Asn Leu Glu Glu Asp Phe Ile Thr Trp Arg Glu Gln Phe Trp
530          210          215          220
531 Pro Ala Val Cys Glu His Phe Gly Val Glu Ala Thr Gly Glu Glu Ser
532 225          230          235          240
533 Ser Ile Arg Gln Tyr Glu Leu Val Val His Thr Asp Ile Asp Ala Ala
534          245          250          255
535 Lys Val Tyr Met Gly Glu Met Gly Arg Leu Lys Ser Tyr Glu Asn Gln

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see
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RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

```

536          260          265          270
537 Lys Pro Pro Phe Asp Ala Lys Asn Pro Phe Leu Ala Ala Val Thr Thr
538          275          280          285
539 Asn Arg Lys Leu Asn Gln Gly Thr Glu Arg His Leu Met His Leu Glu
540          290          295          300
541 Leu Asp Ile Ser Asp Ser Lys Ile Arg Tyr Glu Ser Gly Asp His Val
542 305          310          315          320
543 Ala Val Tyr Pro Ala Asn Asp Ser Ala Leu Val Asn Gln Leu Gly Lys
544          325          330          335
545 Ile Leu Gly Ala Asp Leu Asp Val Val Met Ser Leu Asn Asn Leu Asp
546          340          345          350
547 Glu Glu Ser Asn Lys Lys His Pro Phe Pro Cys Pro Thr Ser Tyr Arg
548          355          360          365
549 Thr Ala Leu Thr Tyr Tyr Leu Asp Ile Thr Asn Pro Pro Arg Thr Asn
550          370          375          380
551 Val Leu Tyr Glu Leu Ala Gln Tyr Ala Ser Glu Pro Ser Glu Gln Glu
552 385          390          395          400
553 Leu Leu Arg Lys Met Ala Ser Ser Ser Gly Glu Gly Lys Glu Leu Tyr
554          405          410          415
555 Leu Ser Trp Val Val Glu Ala Arg Arg His Ile Leu Ala Ile Leu Gln
556          420          425          430
557 Asp Cys Pro Ser Leu Arg Pro Pro Ile Asp His Leu Cys Glu Leu Leu
558          435          440          445
559 Pro Arg Leu Gln Ala Arg Tyr Tyr Ser Ile Ala Ser Ser Ser Lys Val
560          450          455          460
561 His Pro Asn Ser Val His Ile Cys Ala Val Val Val Glu Tyr Glu Thr
562 465          470          475          480
563 Lys Ala Gly Arg Ile Asn Lys Gly Val Ala Thr Asn Trp Leu Arg Ala
564          485          490          495
565 Lys Glu Pro Val Gly Glu Asn Gly Gly Arg Ala Leu Val Pro Met Phe
566          500          505          510
567 Val Arg Lys Ser Gln Phe Arg Leu Pro Phe Lys Ala Thr Thr Pro Val
568          515          520          525
569 Ile Met Val Gly Pro Gly Thr Gly Val Ala Pro Phe Ile Gly Phe Ile
570          530          535          540
571 Gln Glu Arg Ala Trp Leu Arg Gln Gln Gly Lys Glu Val Gly Glu Thr
572 545          550          555          560
573 Leu Leu Tyr Tyr Gly Cys Arg Arg Ser Asp Glu Asp Tyr Leu Tyr Arg
574          565          570          575
575 Glu Glu Leu Ala Gln Phe His Arg Asp Gly Ala Leu Thr Gln Leu Asn
576          580          585          590
577 Val Ala Phe Ser Arg Glu Gln Ser His Lys Val Tyr Val Gln His Leu
578          595          600          605
579 Leu Lys Gln Asp Arg Glu His Leu Trp Lys Leu Ile Glu Gly Gly Ala
580          610          615          620
581 His Ile Tyr Val Cys Gly Asp Ala Arg Asn Met Ala Arg Asp Val Gln
582 625          630          635          640
583 Asn Thr Phe Tyr Asp Ile Val Ala Glu Leu Gly Ala Met Glu His Ala

```

E--> 584

645

650

655

Gln Ala Val Asp Tyr Ile Lys Lys

See item
#1 on

error
summary
sheet
12/22/04

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

648 <210> SEQ ID NO: 25

649 <211> LENGTH: 18

650 <212> TYPE: PRT

651 <213> ORGANISM: Homo sapiens

653 <400> SEQUENCE: 25

E--> 654

Gly Ala Met Trp Leu Phe Phe Gly Cys Arg His Lys Asp Arg Asp Tyr 1

656 <210> SEQ ID NO: 26

657 <211> LENGTH: 18

658 <212> TYPE: PRT

659 <213> ORGANISM: Homo sapiens

661 <400> SEQUENCE: 26

E--> 662

Gly Glu Thr Leu Leu Tyr Tyr Gly Cys Arg Arg Ser Asp Glu Asp Tyr 1

664 <210> SEQ ID NO: 27

665 <211> LENGTH: 18

666 <212> TYPE: PRT

667 <213> ORGANISM: Oryctolagus cuniculus

669 <400> SEQUENCE: 27

E--> 670

Gly Glu Thr Leu Leu Tyr Tyr Gly Cys Arg Arg Ala Ala Glu Asp Tyr 1

672 <210> SEQ ID NO: 28

673 <211> LENGTH: 18

674 <212> TYPE: PRT

675 <213> ORGANISM: Drosophila melanogaster

677 <400> SEQUENCE: 28

E--> 678

Gly Glu Ser Ile Leu Tyr Phe Gly Cys Arg Lys Arg Ser Glu Asp Tyr 1

680 <210> SEQ ID NO: 29

681 <211> LENGTH: 18

682 <212> TYPE: PRT

683 <213> ORGANISM: Vigna radiata

685 <400> SEQUENCE: 29

E--> 686

Gly Pro Ala Leu Leu Phe Phe Gly Cys Arg Asn Arg Gln Met Asp Phe 1

688 <210> SEQ ID NO: 30

689 <211> LENGTH: 18

690 <212> TYPE: PRT

691 <213> ORGANISM: Aspergillus niger

693 <400> SEQUENCE: 30

E--> 694

Gly Pro Thr Val Leu Phe Phe Gly Cys Arg Lys Ser Asp Glu Asp Phe 1

696 <210> SEQ ID NO: 31

697 <211> LENGTH: 18

698 <212> TYPE: PRT

699 <213> ORGANISM: Homo sapiens

701 <400> SEQUENCE: 31

E--> 702

Cys Pro Met Val Leu Val Phe Gly Cys Arg Gln Ser Lys Ile Asp His 1

704 <210> SEQ ID NO: 32

705 <211> LENGTH: 18

706 <212> TYPE: PRT

707 <213> ORGANISM: Homo sapiens

✓ SAME
errors5 See
item #
1 on
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709 <400> SEQUENCE: 32

E--> 710

Gly Arg Met Thr Leu Val Phe Gly Cys Arg Arg Pro Asp Glu Asp His 1

712 <210> SEQ ID NO: 33

5

*SAME
error*

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

713 <211> LENGTH: 18

714 <212> TYPE: PRT

715 <213> ORGANISM: Homo sapiens

717 <400> SEQUENCE: 33

E--> 718

Thr Pro Met Thr Leu Val Phe Gly Cys Arg Cys Ser Gln Leu Asp His 1

720 <210> SEQ ID NO: 34

721 <211> LENGTH: 18

722 <212> TYPE: PRT

723 <213> ORGANISM: Oryctolagus cuniculus

725 <400> SEQUENCE: 34

E--> 726

Gly Arg Met Thr Leu Val Phe Gly Cys Arg His Pro Glu Glu Asp His 1

728 <210> SEQ ID NO: 35

729 <211> LENGTH: 18

730 <212> TYPE: PRT

731 <213> ORGANISM: Gallus gallus

733 <400> SEQUENCE: 35

E--> 734

Gly Asp Met Ile Leu Leu Phe Gly Cys Arg His Pro Asp Met Asp His 1

736 <210> SEQ ID NO: 36

737 <211> LENGTH: 18

738 <212> TYPE: PRT

739 <213> ORGANISM: Escherichia coli

741 <400> SEQUENCE: 36

E--> 742

Gly Lys Asn Trp Leu Phe Phe Gly Asn Pro His Phe Thr Glu Asp Phe 1

744 <210> SEQ ID NO: 37

745 <211> LENGTH: 18

746 <212> TYPE: PRT

747 <213> ORGANISM: Saccharomyces cerevisiae

749 <400> SEQUENCE: 37

E--> 750

Gly Glu Val Phe Leu Tyr Leu Gly Ser Arg His Lys Arg Glu Glu Tyr 1

752 <210> SEQ ID NO: 38

753 <211> LENGTH: 18

754 <212> TYPE: PRT

755 <213> ORGANISM: Thiocapsa roseopersicina

757 <400> SEQUENCE: 38

E--> 758

Gly Arg Asn Trp Leu Ile Phe Gly Asn Arg His Phe His Arg Asp Phe 1

760 <210> SEQ ID NO: 39

761 <211> LENGTH: 19

762 <212> TYPE: PRT

763 <213> ORGANISM: Pisum sativum

765 <400> SEQUENCE: 39

E--> 766

Gly Leu Ala Trp Leu Phe Leu Gly Val Ala Asn Val Asp Ser Leu Leu 1

768 <210> SEQ ID NO: 40

769 <211> LENGTH: 18

770 <212> TYPE: PRT

771 <213> ORGANISM: Spinacia oleracea

773 <400> SEQUENCE: 40

N Same errors

5 See item #

5 1 on error summary sheet

5

5

5

5

E--> 774

Gly Leu Ala Trp Leu Phe Leu Gly Val Pro Thr Ser Ser Ser Leu Leu 1

818 <210> SEQ ID NO: 42

819 <211> LENGTH: 698

*Same
error* 5

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

```

820 <212> TYPE: PRT
821 <213> ORGANISM: Homo sapiens
823 <400> SEQUENCE: 42
824 Met Arg Arg Phe Leu Leu Leu Tyr Ala Thr Gln Gln Gly Gln Ala Lys
825 1 5 10 15
826 Ala Ile Ala Glu Ile Cys Glu Gln Ala Val Val His Gly Phe Ser
827 20 25 30
828 Ala Asp Leu His Cys Ile Ser Glu Ser Asp Lys Tyr Asp Leu Lys Thr
829 35 40 45
830 Glu Thr Ala Pro Leu Val Val Val Val Ser Thr Thr Gly Thr Gly Asp
831 50 55 60
832 Pro Pro Asp Thr Ala Arg Lys Phe Val Lys Glu Ile Gln Asn Gln Thr
833 65 70 75 80
834 Leu Pro Val Asp Phe Phe Ala His Leu Arg Tyr Gly Leu Leu Gly Leu
835 85 90 95
836 Gly Asp Ser Glu Tyr Thr Tyr Phe Cys Asn Gly Gly Lys Ile Ile Asp
837 100 105 110
838 Lys Arg Leu Gln Glu Leu Gly Ala Arg His Phe Tyr Asp Thr Gly His
839 115 120 125
840 Ala Asp Asp Cys Val Gly Leu Glu Leu Val Val Glu Pro Trp Ile Ala
841 130 135 140
842 Gly Leu Trp Pro Ala Leu Arg Lys His Phe Arg Ser Ser Arg Gly Gln
843 145 150 155 160
844 Glu Glu Ile Ser Gly Ala Leu Pro Val Ala Ser Pro Ala Ser Leu Arg
845 165 170 175
846 Thr Asp Leu Val Lys Ser Glu Leu Leu His Ile Glu Ser Gln Val Glu
847 180 185 190
848 Leu Leu Arg Phe Asp Asp Ser Gly Arg Lys Asp Ser Glu Val Leu Lys
849 195 200 205
850 Gln Asn Ala Val Asn Ser Asn Gln Ser Asn Val Val Ile Glu Asp Phe
851 210 215 220
852 Glu Ser Ser Leu Thr Arg Ser Val Pro Pro Leu Ser Gln Ala Ser Leu
853 225 230 235 240
854 Asn Ile Pro Gly Leu Pro Pro Glu Tyr Leu Gln Val His Leu Gln Glu
855 245 250 255
856 Ser Leu Gly Gln Glu Glu Ser Gln Val Ser Val Thr Ser Ala Asp Pro
857 260 265 270
858 Val Phe Gln Val Pro Ile Ser Lys Ala Val Gln Leu Thr Thr Asn Asp
859 275 280 285
860 Ala Ile Lys Thr Thr Leu Leu Val Glu Leu Asp Ile Ser Asn Thr Asp
861 290 295 300
862 Phe Ser Tyr Gln Pro Gly Asp Ala Phe Ser Val Ile Cys Pro Asn Ser
863 305 310 315 320
864 Asp Ser Glu Val Gln Ser Leu Leu Gln Arg Leu Gln Leu Glu Asp Lys
865 325 330 335
866 Arg Glu His Cys Val Leu Leu Lys Ile Lys Ala Asp Thr Lys Lys Lys
867 340 345 350
868 Gly Ala Thr Leu Pro Gln His Ile Pro Ala Gly Cys Ser Leu Gln Phe
869 355 360 365

```

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

```

870 Ile Phe Thr Trp Cys Leu Glu Ile Arg Ala Ile Pro Lys Lys Ala Phe
871      370      375      380
872 Leu Arg Ala Leu Val Asp Tyr Thr Ser Asp Ser Ala Glu Lys Arg Arg
873 385      390      395      400
874 Leu Gln Glu Leu Cys Ser Lys Gln Gly Ala Ala Asp Tyr Ser Arg Phe
875      405      410      415
876 Val Arg Asp Ala Cys Ala Cys Leu Leu Asp Leu Leu Leu Ala Phe Pro
877      420      425      430
878 Ser Cys Gln Pro Pro Leu Ser Leu Leu Leu Glu His Leu Pro Lys Leu
879      435      440      445
880 Gln Pro Arg Pro Tyr Ser Cys Ala Ser Ser Ser Leu Phe His Pro Gly
881      450      455      460
882 Lys Leu His Phe Val Phe Asn Ile Val Glu Phe Leu Ser Thr Ala Thr
883 465      470      475      480
884 Thr Glu Val Leu Arg Lys Gly Val Cys Thr Gly Trp Leu Ala Leu Leu
885      485      490      495
886 Val Ala Ser Val Leu Gln Pro Asn Ile His Ala Ser His Glu Asp Ser
887      500      505      510
888 Gly Lys Ala Leu Ala Pro Lys Ile Ser Ile Ser Pro Arg Thr Thr Asn
889      515      520      525
890 Ser Phe His Leu Pro Asp Asp Pro Ser Ile Pro Ile Ile Met Val Gly
891      530      535      540
892 Pro Gly Thr Gly Ile Ala Pro Phe Ile Gly Phe Leu Gln His Arg Glu
893 545      550      555      560
894 Lys Leu Gln Glu Gln His Pro Asp Gly Asn Phe Gly Ala Met Trp Leu
895      565      570      575
896 Phe Phe Gly Cys Arg His Lys Asp Arg Asp Tyr Leu Phe Arg Lys Glu
897      580      585      590
898 Leu Arg His Phe Leu Lys His Gly Ile Leu Thr His Leu Lys Val Ser
899      595      600      605
900 Phe Ser Arg Asp Ala Pro Val Gly Glu Glu Glu Ala Pro Ala Lys Tyr
901      610      615      620
902 Val Gln Asp Asn Ile Gln Leu His Gly Gln Gln Val Ala Arg Ile Leu
903 625      630      635      640
904 Leu Gln Glu Asn Gly His Ile Tyr Val Cys Gly Asp Ala Lys Asn Met
905      645      650      655
906 Ala Lys Asp Val His Asp Ala Leu Val Gln Ile Ile Ser Lys Glu Val
907      660      665      670

```

E--> 908

Gly Val Glu Lys Leu Glu Ala Met Lys Thr Leu Ala Thr Leu Lys Glu

952 <210> SEQ ID NO: 44

953 <211> LENGTH: 698

954 <212> TYPE: PRT

955 <213> ORGANISM: Homo sapiens

957 <400> SEQUENCE: 44

958 Met Arg Arg Phe Leu Leu Leu Tyr Ala Thr Gln Gln Gly Gln Ala Lys

959 1 5 10 15

960 Ala Ile Ala Glu Glu Met Cys Glu Gln Ala Val Val His Gly Phe Ser

961 20 25 30

962 Ala Asp Leu His Thr Ile Ser Glu Ser Asp Lys Tyr Asp Leu Lys Thr

675

680

*Same
error*

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

```

963          35          40          45
964 Glu Thr Ala Pro Leu Val Val Val Ser Thr Thr Gly Thr Gly Asp
965          50          55          60
966 Pro Pro Asp Thr Ala Arg Lys Phe Val Lys Glu Ile Gln Asn Gln Thr
967 65          70          75          80
968 Leu Pro Val Asp Phe Phe Ala His Leu Arg Tyr Gly Leu Leu Gly Leu
969          85          90          95
970 Gly Asp Ser Glu Tyr Thr Tyr Phe Cys Asn Gly Gly Lys Ile Ile Asp
971          100          105          110
972 Lys Arg Leu Gln Glu Leu Gly Ala Arg His Phe Tyr Asp Thr Gly His
973          115          120          125
974 Ala Asp Asp Cys Val Gly Leu Glu Leu Val Val Glu Pro Trp Ile Ala
975          130          135          140
976 Gly Leu Trp Pro Ala Leu Arg Lys His Phe Arg Ser Ser Arg Gly Gln
977 145          150          155          160
978 Glu Glu Ile Ser Gly Ala Leu Pro Val Ala Ser Pro Ala Ser Leu Arg
979          165          170          175
980 Thr Asp Leu Val Lys Ser Glu Leu Leu His Ile Glu Ser Gln Val Glu
981          180          185          190
982 Leu Leu Arg Phe Asp Asp Ser Gly Arg Lys Asp Ser Glu Val Leu Lys
983          195          200          205
984 Gln Asn Ala Val Asn Ser Asn Gln Ser Asn Val Val Ile Glu Asp Phe
985          210          215          220
986 Glu Ser Ser Leu Thr Arg Ser Val Pro Pro Leu Ser Gln Ala Ser Leu
987 225          230          235          240
988 Asn Ile Pro Gly Leu Pro Pro Glu Tyr Leu Gln Val His Leu Gln Glu
989          245          250          255
990 Ser Leu Gly Gln Glu Glu Ser Gln Val Ser Val Thr Ser Ala Asp Pro
991          260          265          270
992 Val Phe Gln Val Pro Ile Ser Lys Ala Val Gln Leu Thr Thr Asn Asp
993          275          280          285
994 Ala Ile Lys Thr Thr Leu Leu Val Glu Leu Asp Ile Ser Asn Thr Asp
995          290          295          300
996 Phe Ser Tyr Gln Pro Gly Asp Ala Phe Ser Val Ile Cys Pro Asn Ser
997 305          310          315          320
998 Asp Ser Glu Val Gln Ser Leu Leu Gln Arg Leu Gln Leu Glu Asp Lys
999          325          330          335
1000 Arg Glu His Cys Val Leu Leu Lys Ile Lys Ala Asp Thr Lys Lys Lys
1001          340          345          350
1002 Gly Ala Thr Leu Pro Gln His Ile Pro Ala Gly Cys Ser Leu Gln Phe
1003          355          360          365
1004 Ile Phe Thr Trp Cys Leu Glu Ile Arg Ala Ile Pro Lys Lys Ala Phe
1005          370          375          380
1006 Leu Arg Ala Leu Val Asp Tyr Thr Ser Asp Ser Ala Glu Lys Arg Arg
1007 385          390          395          400
1008 Leu Gln Glu Leu Cys Ser Lys Gln Gly Ala Ala Asp Tyr Ser Arg Phe
1009          405          410          415
1010 Val Arg Asp Ala Cys Ala Cys Leu Leu Asp Leu Leu Leu Ala Phe Pro
1011          420          425          430

```

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

```

1012 Ser Cys Gln Pro Pro Leu Ser Leu Leu Leu Glu His Leu Pro Lys Leu
1013          435          440          445
1014 Gln Pro Arg Pro Tyr Ser Cys Ala Ser Ser Ser Leu Phe His Pro Gly
1015          450          455          460
1016 Lys Leu His Phe Val Phe Asn Ile Val Glu Phe Leu Ser Thr Ala Thr
1017 465          470          475          480
1018 Thr Glu Val Leu Arg Lys Gly Val Cys Thr Gly Trp Leu Ala Leu Leu
1019          485          490          495
1020 Val Ala Ser Val Leu Gln Pro Asn Ile His Ala Ser His Glu Asp Ser
1021          500          505          510
1022 Gly Lys Ala Leu Ala Pro Lys Ile Ser Ile Ser Pro Arg Thr Thr Asn
1023          515          520          525
1024 Ser Phe His Leu Pro Asp Asp Pro Ser Ile Pro Ile Ile Met Val Gly
1025          530          535          540
1026 Pro Gly Thr Gly Ile Ala Pro Phe Ile Gly Phe Leu Gln His Arg Glu
1027 545          550          555          560
1028 Lys Leu Gln Glu Gln His Pro Asp Gly Asn Phe Gly Ala Met Trp Leu
1029          565          570          575
1030 Phe Phe Gly Cys Arg His Lys Asp Arg Asp Tyr Leu Phe Arg Lys Glu
1031          580          585          590
1032 Leu Arg His Phe Leu Lys His Gly Ile Leu Thr His Leu Lys Val Ser
1033          595          600          605
1034 Phe Ser Arg Asp Ala Pro Val Gly Glu Glu Glu Ala Pro Ala Lys Tyr
1035          610          615          620
1036 Val Gln Asp Asn Ile Gln Leu His Gly Gln Gln Val Ala Arg Ile Leu
1037 625          630          635          640
1038 Leu Gln Glu Asn Gly His Ile Tyr Val Cys Gly Asp Ala Lys Asn Met
1039          645          650          655
1040 Ala Lys Asp Val His Asp Ala Leu Val Gln Ile Ile Ser Lys Glu Val
1041          660          665          670

```

E--> 1042

Gly Val Glu Lys Leu Glu Ala Met Lys Thr Leu Ala Thr Leu Lys Glu

675

1086 <210> SEQ ID NO: 46

1087 <211> LENGTH: 697

1088 <212> TYPE: PRT

1089 <213> ORGANISM: Homo sapiens

1091 <400> SEQUENCE: 46

1092 Met Arg Arg Phe Leu Leu Leu Tyr Ala Thr Gln Gln Gly Gln Ala Lys

1093 1 5 10 15

1094 Ala Ile Ala Glu Glu Met Cys Glu Gln Ala Val Val His Gly Phe Ser

1095 20 25 30

1096 Ala Asp Leu His Cys Ile Ser Glu Ser Asp Lys Tyr Asp Leu Lys Thr

1097 35 40 45

1098 Glu Thr Ala Pro Leu Val Val Val Val Ser Thr Thr Gly Thr Gly Asp

1099 50 55 60

1100 Pro Pro Asp Thr Ala Arg Lys Phe Val Lys Glu Ile Gln Asn Gln Thr

1101 65 70 75 80

1102 Leu Pro Val Asp Phe Phe Ala His Leu Arg Tyr Gly Leu Leu Gly Leu

1103 85 90 95

1104 Gly Asp Ser Glu Tyr Thr Tyr Phe Cys Asn Gly Gly Lys Ile Ile Asp

Same
error

680

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set : N:\CRF4\12222004\I487841.raw

```

1105          100          105          110
1106 Lys Arg Leu Gln Glu Leu Gly Ala Arg His Phe Tyr Asp Thr Gly His
1107          115          120          125
1108 Ala Asp Asp Cys Val Gly Leu Glu Leu Val Val Glu Pro Trp Ile Ala
1109          130          135          140
1110 Gly Leu Trp Pro Ala Leu Arg Lys His Phe Arg Ser Ser Arg Gly Gln
1111 145          150          155          160
1112 Glu Glu Ile Ser Gly Ala Leu Pro Val Ala Ser Pro Ala Ser Leu Arg
1113          165          170          175
1114 Thr Asp Leu Val Lys Ser Glu Leu Leu His Ile Glu Ser Gln Val Glu
1115          180          185          190
1116 Leu Leu Arg Phe Asp Asp Ser Gly Arg Lys Asp Ser Glu Val Leu Lys
1117          195          200          205
1118 Gln Asn Ala Val Asn Ser Asn Gln Ser Asn Val Val Ile Glu Asp Phe
1119          210          215          220
1120 Glu Ser Ser Leu Thr Arg Ser Val Pro Pro Leu Ser Gln Ala Ser Leu
1121 225          230          235          240
1122 Asn Ile Pro Gly Leu Pro Pro Glu Tyr Leu Gln Val His Leu Gln Glu
1123          245          250          255
1124 Ser Leu Gly Gln Glu Glu Ser Gln Val Ser Val Thr Ser Ala Asp Pro
1125          260          265          270
1126 Val Phe Gln Val Pro Ile Ser Lys Ala Val Gln Leu Thr Thr Asn Asp
1127          275          280          285
1128 Ala Ile Lys Thr Thr Leu Leu Val Glu Leu Asp Ile Ser Asn Thr Asp
1129          290          295          300
1130 Phe Ser Tyr Gln Pro Gly Asp Ala Phe Ser Val Ile Cys Pro Asn Ser
1131 305          310          315          320
1132 Asp Ser Glu Val Gln Ser Leu Leu Gln Arg Leu Gln Leu Glu Asp Lys
1133          325          330          335
1134 Arg Glu His Cys Val Leu Leu Lys Ile Lys Ala Asp Thr Lys Lys Lys
1135          340          345          350
1136 Gly Ala Thr Leu Pro Gln His Ile Pro Ala Gly Cys Ser Leu Gln Phe
1137          355          360          365
1138 Ile Phe Thr Trp Cys Leu Glu Ile Arg Ala Ile Pro Lys Lys Ala Phe
1139          370          375          380
1140 Leu Arg Ala Leu Val Asp Tyr Thr Ser Asp Ser Ala Glu Lys Arg Arg
1141 385          390          395          400
1142 Leu Gln Glu Leu Cys Ser Lys Gln Gly Ala Ala Asp Tyr Ser Arg Phe
1143          405          410          415
1144 Val Arg Asp Ala Cys Ala Cys Leu Leu Asp Leu Leu Leu Ala Phe Pro
1145          420          425          430
1146 Ser Cys Gln Pro Pro Leu Ser Leu Leu Leu Glu His Leu Pro Lys Leu
1147          435          440          445
1148 Gln Pro Arg Pro Tyr Ser Cys Ala Ser Ser Ser Leu Phe His Pro Gly
1149          450          455          460
1150 Lys Leu His Phe Val Phe Asn Ile Val Glu Phe Leu Ser Thr Ala Thr
1151 465          470          475          480
1152 Thr Glu Val Leu Arg Lys Gly Val Cys Thr Gly Trp Leu Ala Leu Leu
1153          485          490          495

```

RAW SEQUENCE LISTING

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:45

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

```

1154 Val Ala Ser Val Leu Gln Pro Asn Ile His Ala Ser His Glu Asp Ser
1155           500           505           510
1156 Gly Lys Ala Leu Ala Pro Lys Ile Ser Ile Ser Pro Arg Thr Thr Asn
1157           515           520           525
1158 Ser Phe His Leu Pro Asp Asp Pro Ser Ile Pro Ile Ile Met Val Gly
1159           530           535           540
1160 Pro Gly Thr Gly Ile Ala Pro Phe Ile Gly Phe Leu Gln His Arg Glu
1161 545           550           555           560
1162 Lys Leu Gln Glu Gln His Pro Asp Gly Asn Phe Gly Ala Met Trp Phe
1163           565           570           575
1164 Phe Gly Cys Arg His Lys Asp Arg Asp Tyr Leu Phe Arg Lys Glu Leu
1165           580           585           590
1166 Arg His Phe Leu Lys His Gly Ile Leu Thr His Leu Lys Val Ser Phe
1167           595           600           605
1168 Ser Arg Asp Ala Pro Val Gly Glu Glu Glu Ala Pro Ala Lys Tyr Val
1169           610           615           620
1170 Gln Asp Asn Ile Gln Leu His Gly Gln Gln Val Ala Arg Ile Leu Leu
1171 625           630           635           640
1172 Gln Glu Asn Gly His Ile Tyr Val Cys Gly Asp Ala Lys Asn Met Ala
1173           645           650           655
1174 Lys Asp Val His Asp Ala Leu Val Gln Ile Ile Ser Lys Glu Val Gly
1175           660           665           670

```

E--> 1176

Val Glu Lys Leu Glu Ala Met Lys Thr Leu Ala Thr Leu Lys Glu Glu

675

680

*Same
error*

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/487,841

DATE: 12/22/2004
TIME: 15:09:46

Input Set : A:\seqlist.txt
Output Set: N:\CRF4\12222004\I487841.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:21; Line(s) 405
Seq#:22; Line(s) 495
Seq#:23; Line(s) 584
Seq#:25; Line(s) 654
Seq#:26; Line(s) 662
Seq#:27; Line(s) 670
Seq#:28; Line(s) 678
Seq#:29; Line(s) 686
Seq#:30; Line(s) 694
Seq#:31; Line(s) 702
Seq#:32; Line(s) 710
Seq#:33; Line(s) 718
Seq#:34; Line(s) 726
Seq#:35; Line(s) 734
Seq#:36; Line(s) 742
Seq#:37; Line(s) 750
Seq#:38; Line(s) 758
Seq#:39; Line(s) 766
Seq#:40; Line(s) 774
Seq#:42; Line(s) 908
Seq#:44; Line(s) 1042
Seq#:46; Line(s) 1176

VERIFICATION SUMMARY

DATE: 12/22/2004

PATENT APPLICATION: US/09/487,841

TIME: 15:09:46

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12222004\I487841.raw

L:405 M:252 E: No. of Seq. differs, <211> LENGTH:Input:698 Found:672 SEQ:21 ✓
L:495 M:252 E: No. of Seq. differs, <211> LENGTH:Input:682 Found:656 SEQ:22 ✓
L:584 M:360 E: Sequence data overflow, line data truncated, for SEQ ID#:23 ✓
L:584 M:252 E: No. of Seq. differs, <211> LENGTH:Input:677 Found:656 SEQ:23 ✓
L:654 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:662 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:670 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:678 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:686 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:694 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:702 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:710 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:718 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:726 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:734 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:742 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:750 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:758 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:766 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:774 M:333 E: Wrong sequence grouping, Amino acids not in groups! ✓
L:908 M:252 E: No. of Seq. differs, <211> LENGTH:Input:698 Found:672 SEQ:42 ✓
L:1042 M:252 E: No. of Seq. differs, <211> LENGTH:Input:698 Found:672 SEQ:44 ✓
L:1176 M:252 E: No. of Seq. differs, <211> LENGTH:Input:697 Found:672 SEQ:46 ✓